



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/040,940	01/09/2002	Allon Adir	ADIR1	5128
1444	7590	03/01/2004	EXAMINER	
BROWDY AND NEIMARK, P.L.L.C.			SUN, XIUQIN	
624 NINTH STREET, NW			ART UNIT	
SUITE 300			PAPER NUMBER	
WASHINGTON, DC 20001-5303			2863	

DATE MAILED: 03/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/040,940	ADIR ET AL.	
	Examiner	Art Unit	
	Xiuqin Sun	2863	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-53 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,3-6,8-10,12-14,16-19,21-23,25-27,29-34,36-39,41-47 and 49-52 is/are rejected.
- 7) ☒ Claim(s) 2,7,11,15,20,24,28,35,40,48 and 53 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>02/06/2004</u> | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 3-6, 8-10, 21-23 and 25-27 are rejected under 35 U.S.C. 102(b) as being anticipated by Shrote (U.S. Pat. No. 5774358).

Shrote teaches a system and a computer software product comprising a computer-readable medium for verification of a system design, comprising: a test program generator that accepts a sequence of statements including at least one event (Fig. 2; col. 6, lines 9-19; col. 8, lines 29-40 and col. 10-11, lines 66-9); an event handling facility in said test program generator (col. 9-10, lines 13-33 and col. 11, lines 10-50); and wherein responsive to a triggering condition of said event said test program generator emits test program instructions in response to one of a primary input stream and an alternate input stream, said alternate input stream being represented in a body of said event (col. 9-10, 13-46; and col. 11, lines 10-50). Shrote further teaches: a conditional statement of said event references a current state of a test program that is generated by said test program generator (col. 9-10, 13-46; col. 11, lines 10-50 and col. 11-12, lines 51-14). Shrote further teaches a method of test program generation, comprising the steps of defining a set of statements, said set of statements including an

event (Fig. 2; col. 6, lines 9-19; col. 8, lines 29-40 and col. 10-11, lines 66-9); responsive to said set of statements generating a sequence of test program instructions for a target (col. 6, lines 9-19; col. 8, lines 29-40 and col. 10-11, lines 66-9); while performing said step of generating said sequence of test program instructions determining if a condition of said event is satisfied (col. 9-10, lines 13-33 and col. 11, lines 10-50); and responsive to said step of determining generating an alternate sequence of test program instructions (col. 9-10, 13-46; col. 11, lines 10-67 and col. 12, lines 1-14). Shrote further teaches: said step of determining is performed by evaluating a state of said target prior to inclusion of an instruction in said first sequence of test program instructions (col. 9-10, 13-46; col. 11, lines 10-67 and col. 12, lines 1-14); at least a portion of said sequence of test program instructions are randomly generated (col. 1-2, lines 56-2); said event has an identifying name attribute (col. 9-10, lines 34-33); said event has a triggering condition attribute (col. 9-10, lines 23-46); and said event comprises an input stream entity (Fig. 2). Shrote further teaches: said computer software product further comprising the steps of accessing a knowledge base having information of said target stored therein, and said step of generating said sequence of test program instructions comprises selecting members of said sequence of test program instructions in accordance with said information in said knowledge base, wherein said step of selecting members is biased by said set of statements (col. 6, lines 20-29 and col. 12, lines 15-26); said event comprises a body that is a template for generation of said alternate sequence of test program instructions (col. 12, lines 15-26).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 12-14, 16-19, 29-34, 36-39, 41- 47 and 49-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shrote (U.S. Pat. No. 5774358) in view of Hekmatpour (U.S. Pat. No. 2002/0002698).

In addition to the subject matter discussed above, Shrote further teaches a method, an apparatus and a computer software product for generating test programs, comprising the steps of: providing a test program generation engine (Fig. 2); coupling said test program generation engine to a design specification of a target, wherein said design specification comprises a knowledge base (col. 6, lines 20-29); introducing a set of statements into said test program generation engine, said set of statements including an event (Fig. 2; col. 6, lines 9-19; col. 8, lines 29-40 and col. 10-11, lines 66-9); determining whether a triggering condition of said event is satisfied (col. 9-10, lines 13-33 and col. 11, lines 10-50); in a first case, wherein said triggering condition is not satisfied, causing said test program generation engine to respond to said set of statements to generate a first sequence of test program instructions that can be executed on said target (col. 9-10, 13-46; col. 11, lines 10-67 and col. 12, lines 1-14); and in a second case, wherein said triggering condition is satisfied, causing said test

program generation engine to respond to an alternate set of statements of said event to generate a second sequence of test program instructions that can be executed on said target (col. 9-10, 13-46; col. 11, lines 10-67 and col. 12, lines 1-14). Shrote further teaches: at least a portion of said first sequence of test program instructions and said second sequence of test program instructions is generated randomly (col. 1-2, lines 56-2); said set of statements is introduced into said test program generation engine as an input file (Fig. 2); said event has an identifying name attribute (col. 9-10, lines 34-33); said event has a triggering condition attribute (col. 9-10, lines 23-46); said step of evaluating said state is performed subsequent to said simulated execution of said test program instruction (col. 11-12, lines 51-14); said step of evaluating said state is performed a first time prior to a simulated execution of said test program instruction and is performed a second time subsequent to said simulated execution thereof (col. 11-12, lines 51-14).

Shrote does not mention: coupling said test program generation engine to an architectural simulator of said target; said simulator for simulating said simulated execution.

Hekmatpour teaches a method for verification of a system design comprising: a test program generator which is coupled to an architecture simulator; and said simulator is used for simulating said simulated execution (sections 0006, 0013, 0035 and 0075).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the teachings of Hekmatpour into the invention of Shrote

Art Unit: 2863

in order to execute the generated test programs on said simulator to accomplish the desired verification (Hekmatpour, section 0006).

Allowable Subject Matter

5. Claims 2, 7, 11, 15, 20, 24, 28, 35, 40, 48 and 53 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Reasons for Allowance

6. The following is an examiner's statement of reasons for allowance:

The primary reason for the allowance of claims 2, 7, 15, 24, 35 and 48 is the inclusion of the limitation that said event comprises a plurality of events, each of said events having a priority value, and said step and means of determining if said condition is satisfied is performed with respect to each of said events in an order of said priority value thereof. It is this limitation found in each of the claims, as it is claimed in the combination that has not been found, taught or suggested by the prior art of record, which makes these claims allowable over the prior art.

The primary reason for the allowance of claims 11, 20, 28, 40 and 53 is the inclusion of the limitation that said event comprises a priority value besides an identifying name attribute, a triggering condition attribute and an input stream entity. It is this limitation found in each of the claims, as it is claimed in the combination that has not

Art Unit: 2863

been found, taught or suggested by the prior art of record, which makes these claims allowable over the prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Prior Art Citations

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- 1) Boughner et al. (U. S. Pat. No. 5983001) disclose a Method and system for facilitating the automatic creation of test scripts.
- 2) Passova (U. S. Pat. No. 6671874) discloses an universal verification and validation system and method of computer-aided software quality assurance and testing.
- 3) Szermer (U. S. Pat. No. 5913023) discloses a method for automated generation of tests for software.
- 4) Sugamori et al. (U. S. Pub. No. 2003/0074153) disclose an application specific event based semiconductor memory test system.
- 5) Pauwels et al. (U. S. Pat. No. 6002992) disclose a test system for verifying angle/time based systems and method therefore.

Art Unit: 2863

- 6) Ellis et al. (U. S. Pat. No. 5684946) disclose an apparatus and method for improving the efficiency and quality of functional verification.
7. Brummel (U. S. Pat. No. 6564178) discloses a method and apparatus for evaluating processors for architectural compliance.

Contact Information

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Xiuqin Sun whose telephone number is (703)305-3467. The examiner can normally be reached on 7:00am-4:30pm.

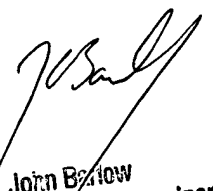
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on (703)308-3126. The fax phone numbers for the organization where this application or proceeding is assigned are (703)872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0956.

Xiuqin Sun
Examiner
Art Unit 2863

XS
XS

February 6, 2004


John Barlow
Supervisory Patent Examiner
Technology Center 2800